DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY FORCES COMMAND
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REPLY TO
ATTENTION OF
AFLG-PR

30 November 1998

MEMORANDUM FOR FORSCOM Directorates of Contracting

SUBJECT: Contracting Information Letter (CIL) 99-5, Use of ISO 9000 Quality Standards

1. Acquisition Reform (AR) has affected every aspect of the contracting process, requiring us to examine all of our "old" approaches and procedures to see what, where and how we can adopt and adapt to achieve new efficiencies. The use of ISO 9000 quality standards is an AR initiative that gives us an additional tool for effective contract management.

2. The ISO 9000 is a series of standards developed by the International Organization for Standardization in Geneva, Switzerland, that define a framework of minimum requirements for development and implementation of a quality system. The core of the ISO 9000 is a series of five (5) international standards that describe the elements a quality system should encompass, but not how a specific organization should implement these elements. A summary of these standards is at Enclosure 1.

3. To demonstrate to its customers that it has a quality management system in place, a company may go through an ISO 9000 certification process, ranging from "self-certification" to a formal assessment and registration by an independent, accredited registrar. The ISO standards require that the company: (a) document the processes that affect quality; (b) retain records and data that describe the quality of the product or service; and (c) ensure that the processes produce consistent quality. As noted above, ISO does not describe *how* the company will do this. However, the company must use the ISO model to develop and/or describe its own activities for satisfying the quality-related expectation of its customers.

4. It is not DoD or FORSCOM policy to require contractors to obtain formal ISO 9000 certification/registration. However, for

some of our service contracts, we may require the contractor to *comply* with certain of the ISO standards. A brief description of the key categories of the ISO standards applicable to service contracts is at Enclosure 2.

5. Every service contract is not an automatic candidate for application of the ISO 9000 quality standards. We have always required the contractor to comply with specific quality control standards and, in fact, many of our provisions use quality concepts that are very similar to the ISO concepts. Examples include contract provisions that call for a quality control program and/or plan that describe the contractor's processes and methods for building in, inspecting, documenting and verifying product (service) quality; or a description of the contractor's process for identifying, resolving, and/or preventing potential and actual problem areas. For most of our contracts, these type quality requirements will suffice.

6. The decision to *require compliance* with ISO standards should be based on careful consideration of the comprehensiveness or sophistication of the quality system that is desired and that the government can afford. The ISO standards being considered for the contract should be thoroughly reviewed by contracting and functional teams familiar with ISO requirements, including the cost impact to the contract. In addition, several basic criteria should be applied on a case by case basis to determine the appropriateness of using ISO quality standards. As a minimum, two or more of the following circumstance should exist to warrant the application of ISO standards:

a. Risk of Performance. Requirement is mission essential, or has high impact on other services, systems, contracts, or vital processes;

b. Quality of Product or Services. The required/desired quality level of product or service is high. There is limited to no-latitude in product or service failure, re-performance, or other considerations;

c. Complexity. Demonstration of ability to consistently perform at highest performance or quality level is desired. Integration of major services, systems, or processes requires

highest quality management and quality systems to ensure desired service or output is received, and contractor accountability at all levels is easily identified;

d. Cost Control System. Cost management and ability to track service/system cost is critical;

e. Value of Product or Service. Cost of failure is too great.

7. If the decision is made to require compliance with specific ISO standards, our subsequent expectations for contractor management and control of contract performance quality should be high, and we should rely almost completely on the contractor's approved quality control system and procedures. Basically, this means that the responsibility for *establishing and demonstrating* quality is placed squarely on the contractor. In addition, minimal government quality assurance (QA) resources (inspectors and technical monitors) or surveillance procedures should be utilized in those areas covered by the ISO-compliant system.

8. The contract requirement for compliance with ISO quality standards is made with the intent of accepting the contractor's approved quality system as the primary means of getting the desired level of performance quality. Initially, government QA surveillance should be limited to actions required to ascertain that the contractor's quality system is operating as intended. In most cases, this can be accomplished by periodic reviews of the contractor-generated files/documentation, with perhaps some monitoring of in-process performance. The level and method of government QA surveillance should correspond inversely with the level of confidence in the quality results, i.e., the better the results, the less need for inspections. However, acceptance of the contractor's QC system and operation does not preclude the need for documenting contractor performance for purposes of contract performance incentive and/or assessment reports.

9. When ISO quality standards are used in commercial activities (CA) solicitations, the same standards will also apply to the government's most efficient operation (MEO). This means that,

if the contract requires compliance with ISO standards, and performance is retained in-house, the government must comply with the ISO standards. Other points to keep in mind for CA contracts:

a. The performance work statement must specifically identify and require compliance with the ISO standard(s);

b. Instructions to the contractor for addressing the ISO standards should be set forth in Section L of the solicitation, along with information on how the government will evaluate this factor (also remember to include appropriate/thorough guidance and evaluation procedures in the source selection plan);

c. The government's quality assurance surveillance plan should be tailored to reflect the reduced requirement for performance inspections, surveillance and monitoring as the result of ISO compliance.

10. Enclosure 3 contains examples of clauses and provisions that require compliance with ISO standards, taken from Fort Carson CA solicitation for the public works (DPW) function. Reference material and available training for ISO 9000 can be found at Enclosure 4.

11. For additional information, contact Ms. Beverly Thomas, DSN 367-7284, email thomasb@forscom.army.mil; or Ms. Joan Sylvester, DSN 367-6237, email sylvestj@forscom.army.mil.

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Enclosure 1

THE ISO 9000 SERIES

ISO 9000, QUALITY MANAGEMENT AND QUALITY ASSURANCE STANDARDS: A series of five (5) international standards that provide guidance in the development and implementation of an effective quality management system. ISO 9000-1 provides guidelines and basic definitions that describe what the series is about and helps in the selection and use of the appropriate ISO standard (9001, 9002 or 9003).
(American equivalent: ANSI/ASQC* Q 90)

ISO 9001, QUALITY SYSTEMS: A model for use by organizations (both manufacturing and service) to certify their quality system form initial design and development of a desired product or service through production, installation, and servicing. This is the most comprehensive standard in the series, covering all elements listed in ISO 9002 and 90003.
(American equivalent: ANSI/ASQC Q 91)

ISO 9002, QUALITY SYSTEMS: Identical to ISO 9001 except it omits the requirement of documenting the design/development process. It addresses the prevention, detection, and correction in production, installation and servicing. This standard is most applicable to FORSCOM service contracts.
(American equivalent: ANSI/ASQC Q 92)

ISO 9003, QUALITY SYSTEMS: For use by organizations that need only to show, through inspection and testing, that they are delivering the desired product or service.
(American equivalent: ANSI/ASQC Q 93)

ISO 9004-1, QUALITY MANAGEMENT AND QUALITY SYSTEM ELEMENTS - GUIDELINES: Basic set of guidelines that organizations can use to help them develop and implement their quality management system.
(American equivalent: ANSI/ASQC Q 94)

*ANSI/ASQC = American National Standards Institute/American Society for Quality Control

Enclosure 2

ISO 9002 QUALITY SYSTEMS CATEGORIES

4.1 Management Responsibility

This category documents Management's responsibilities for establishing, communicating, implementing, reviewing and providing resources to support its quality system. It includes thorough documentation of organizational structure, statement of objectives and commitment to quality; assignment of individual or team responsibilities; lines of authority; and interrelation of all personnel assigned to initiate preventive action, identify and recommend solutions to problems, and control/verify implementation of correction.

4.2 Quality System

This category describes the organizational quality practices for providing products and services that continuously and consistently meet the customers' needs. It is a demonstration, through documented procedures (such as quality plans and quality manuals) that an overall quality system is in effective operation. The typical outline of a quality plan or manual includes such topics as:

- Quality policy
- Organizational chart
- Quality assurance organization
- Statement of authority and responsibility
- Specifications and standards
- Operating procedures
- Job instructions
- Inspection and testing flowcharts
- Preventive actions
- Quality records and forms
- Review and analysis procedures
- Training function
- Distribution list of controlled copies

Note: Some version of this category (along with 4.9, Process Control) is usually included in all service contracts, whether or not ISO compliance is specified.

4.3 Contract review

This category describes actions for ensuring the ability to meet the contract requirements before accepting an order (or submitting a bid/proposal). It provides documentation that the customer needs are understood, that all requirements are adequately defined, and that requirements that differ from those in the contract are resolved. It includes procedures and checklists for reviewing contract and customer requirements; verifying the capability to meet requirements; and resolution of deviations from contract.

4.4 Design Control

This category ascertains that the product produced meets all specified design requirements set by the customer and regulatory agencies. It demonstrates a design control process in operation that has adequate resources, assigned responsibilities, and procedures to control, verify, and validate product design and supporting software.

4.5 Document and Data Control

This category involves establishing and maintaining procedures to ensure that documents and data are accessible; reviewed, updated and revised periodically; and controlled with hard copy, electronic or other media. It may include a list all documents; a plan to administer each category of document; accessibility at the work/job site; control over documents that become obsolete.

4.6 Purchasing

This category covers the documented procedures for purchasing the products that are incorporated into the contractor's production process. It includes supplier and subcontractor evaluation and selection; purchasing data and specifications; review and approval; purchase contracts and supporting data; verification of purchased product.

4.7 Control of Customer-Supplied Product

This category includes documented procedures for the verification, storage, and maintenance of customer supplied products (e.g., government furnished property). Documentation includes records of receipt and verification results; rejected

product (lost, damaged, unusable); inventory records; and reports to customer(s).

4.8 Product Identification and Traceability

This category includes procedures and documentation to make certain that the contractor's product is properly identified at all stages of production/performance, and to avoid errors that can cause scrap and rework/reperformance. It establishes customer and/or regulatory requirements, and provides for identifying incoming material, in-process product, and finished product. It may also be a record that tracks the history, usage, and location of product.

4.9 Process Control

This category is to ensure that all processes are carried out under controlled conditions to minimize variability in the manufacture of product or performance of service. It covers methodology for:

- Identifying **critical control points**;
- Defining factors affecting key processes such as equipment, work environment, and hazardous material control;
- Identifying product requirements such as specifications, workmanship standards; regulatory standards and codes;
- Developing work/ job instructions;
- Developing control and approval procedures;
- Implementing process change control:
- Evaluating, revising, improving procedures, etc.

It includes documented procedures for the processes that:

- Identify and plan the steps to produce/ deliver the product or service;
- Establish workmanship criteria as needed;
- Ensure equipment is suitable and operated under controlled conditions;
- Ensure suitable working environment;
- Prepare instructions for all activities affecting quality;
- Monitor and approve processes.

4.10 Inspection and Testing

This category is to make certain that the product conforms to all requirements/specifications at each production (performance) stage. It demonstrates that inspection and test procedures are in operation; that nonconforming product is identified at the

earliest possible stage; and that corrective action is facilitated. It establishes a separate plan or procedures for initial, in-process and final inspection and testing; lists all all quality characteristics that are subject to inspection and testing; and provides for complete and current procedures at the point of inspection/test.

4.11 Control of Inspection, Measuring, and Test Equipment

This category covers procedures to ensure that inspection, measuring and test equipment is capable of consistently providing specified measurement requirements, so that proper decisions can be made for control and acceptance of product. It includes documented procedures to ensure that equipment is properly calibrated and will remain so

4.12 Inspection and Test Status

This category is to make certain that only products that pass the required inspections and tests are released. It includes methods and procedures for identifying inspection and test status through production, installation, and servicing, such as labels; tags; or stamps on product or labels; status cards; inspection records; software programs, etc. It identifies locations where inspection status is critical; flowcharts all processes; evaluates/revises/improves the quality plan or procedures; determines the means of identification/status, etc.

4.13 Control of Nonconforming Product

This category is to ensure that nonconforming products are not used. It includes procedures in operation that will help to identify nonconforming products; evaluate degree and extent of nonconformance; segregate product physically, where practical; define who is responsible for authorizing disposition; dispose of nonconforming product according to the quality plan or procedures; documentation and notification of concerned parties.

4.14 Corrective and Preventive Action

This category is to make certain that causes of nonconforming products are investigated and an effort is made to eliminate them. It also includes procedures to prevent occurrence of nonconforming products in the first place, and actions that contribute to continuous quality improvement.

4.15 Handling, Storage, Packaging, Preservation, and Delivery

This category ensures that procedures for handling, storage, packaging, preservation, and delivery of product are adequate, and that the integrity of product is protected at all stages. It includes documentation of incoming materials; inventory/ stock management procedures; secure storage, preservation, and segregation methods; prevention of damage or deterioration; packaging, packing, and marking processes; protection of product after inspection and test, during storage, and during delivery to destination; transportation techniques.

4.16 Control of Quality Records

This category is to make certain that quality records demonstrate effective operation of a quality system, which will ensure the achievement of the required product quality. It is the effective control of quality records through documented procedures, and includes records storage and retention times; making quality records available for evaluation by the customer, if required; and ensuring that records are legible and easily retrievable.

4.17 Internal Quality Audits

This category is to ensure that quality activities meet requirements and demonstrate the effectiveness of the quality system. It is a plan and procedures for conducting internal audits of quality system to: schedule audits according to status and importance of activity; carry out audits using independent personnel; document audit results and any follow-up; communicate audit results to appropriate personnel; initiate corrective action; and verify and record effectiveness of the corrective action taken.

4.18 Training

This category covers procedures for training employees to do their jobs effectively, so they may avoid mistakes that affect quality. It is the training process in use that is based on the quality system job requirements. Elements include training needs; training of personnel to meet those needs; records of individual qualifications; and development of a training plan.

It includes a list all job functions; training requirements for each function; training procedures; training modules; list of qualified trainers; and periodic evaluation of effectiveness.

4.19 Servicing

This category covers the after-sale/delivery attention provided for the product, when required, to ensure complete customer satisfaction. It identifies and documents the customer service requirements, and establishes procedures to perform the service, and report and verify that the requirements are met.

4.20 Statistical Techniques

This category covers the use of statistical techniques that are necessary to ensure quality or to detect potential problems. It is a process for identifying the need for statistical techniques for establishing, controlling, and verifying process capability and product quality. Where the need is established, procedures for these statistical techniques are documented and maintained to ensure that they are correctly applied. Typical applications of statistical methods include: market analysis; product design; dependability specification, longevity, and durability prediction; process control and process capability studies; determination of quality levels in sampling plans; data analysis, performance assessment, and nonconformity analysis; process improvement; safety evaluation and risk analysis; trend identification; and cause-effect relationship identification.

ENCLOSURE 3

ISO 9000 - SAMPLES OF SOLICITATION CLAUSES/ PROVISIONS
(Excerpts from Fort Carson CA Solicitation DAKF06-97-R-0003 for DPW)

Section C.1.3. Quality Control (QC) Program and QC Plan (QCP): The Contractor shall implement the QCP draft proposal on contract performance start date. The Contractor shall submit for approval the final QCP within 30 days after contract performance start date. The Contractor shall develop a proactive QCP for measuring and attaining quality of performance under this contract. The ACP shall be the basis for the QC program. A key and basic tenant of the QCP is that the Contractor shall provide continuous quality improvement. The Contractor's QC program shall emphasize deficiency prevention over deficiency detection and shall meet the standards of International Standards Organization (ISO) 9002 excluding ISO certification. The Contractor's QC Program shall:

C.1.3.1. Be in addition to and not in derogation of other contract provisions.

C.1.3.2. Be directly accountable to the Contractor's top management.

C.1.3.3. Contain methods of direct and indirect communication with the Government regarding performance of the contract. Communication shall include regular and formal meetings with the Government, review and analysis of key process indicators, analysis of process deficiencies, and problem resolution.

C.1.3.4. Contain process control and process performance measurement procedures to include how the Contractor will effect preventative actions and corrective actions, as opposed to reliance on government or customer identification of deficiencies prior to resolving the problem.

C.1.3.5. Contain a customer comments/complaints processing system for identification and correction of validated complaints, providing feedback to the DO or designated representative and customer of corrective action(s) taken. The term customer refers to customers internal and external to the Directorate of Public Works (DPW).

C.1.3.6. Require documentation of Contractor quality control, process control. Process measurement and output indicator checks and corrective action be maintained by the Contractor throughout the term of this contract. The Contractor shall make these documents available to the KO or designated representative upon request.

C.1.3.7. Support the Government Total Army Quality (TAQ) program.

C.1.3.8. Identify the key activities and associated characteristics in each process that have a significant influence on specific services and provide for methods for evaluation of the selected characteristics.

C.1.3.9. Address ass a minimum:

C.1.3.9.1. How continuous quality improvement will be a sustaining focus throughout the QCP.

C.1.3.9.2. Productivity measurement, cost control and work control, including work scheduling, workflow, and achievement of established standards contained in Section C.5. of this Performance work Statement (PWS).

C.1.3.9.3. Management, utilization, maintenance, standards and accountability of Government property.

C.1.3.9.4. Overall project management and administration.

C.1.3.9.5. Data collection and other documentation, including document flow and control of associated files.....

Section L-13 Quality Control Subfactor of Quality Proposal:

a. The Offeror's Quality Control Section shall address a complete and comprehensive quality control system to support performance of the contract.

Section L-13 Quality Control Subfactor of Quality Proposal (cont'd):

b. The Quality Control (QC) Section will be evaluated against the following components:

Meet Requirements of ISO 9002
Deficiency Prevention
Documentation
Specific Inspection Techniques

Each of these components is defined and described below. The QC Section shall include a summary describing the concepts and principles governing the QC system. The narrative portion of this and other sections shall be augmented by graphic displays necessary to complete understanding of the offeror's QC system.

c. Meet Requirements of ISO 9002. The proposal must address the following quality system requirements as described in ISO 9002; 4.1, 4.2, 4.9, 4.10, 4.13 and 4.17. Offeror shall include how the system is to be implemented and how constant quality improvement is to be used. Offeror shall address how personnel are to be trained in QC philosophy and methods to be employed. The offeror shall state how they are going to implemented the QC process to include purpose, frequency, and participants. Offeror shall also include how they are going to develop the final QC program after award. Offeror shall show time lines for phases of the implementation of the ISO 9002 program (except 4.4 and 4.19). Examples are: development of quality plan, operating procedures, flow charts and other various levels of the ISO program.

d. Deficiency Prevention. This shall address how the information received from sources (e.g., audit, quality records, management review) will prevent deficiencies. Offeror shall identify who in the organization will be involved and address short term and long term corrective action. Offeror shall also submit a sample of the documents to be used to support the program and that the reports meet requirement of ISO 9002.

e. Documentation. This component shall include a sample of documents and reports to be used to gather and support the QC system and shall provide for Government access to all offeror reports and files. Offeror shall show how the reports and records will provide an audit trail for the QC program.

f. Specific Inspection Techniques. Inspection techniques shall include specific inspection techniques for one of the major functional areas (transportation). The inspection methods shall be simple and practical, consistent wit h quality concepts and in conformance with ISO 9002 parameters. The offeror shall also include any AQLs or other means of measuring standards and explain the rationale for their use.

ENCLOSURE 4

LIST OF WEB SITES FOR ISO INFORMATION AND AVAILABLE TRAINING

- http://www.commerce-associates.com
- http://www.exit109.com/~leebee/
- http://www.interaccess.com/bpr/
- http://www.connect.ab.ca
- http://www.ceem.com
- http://www.bmt.on.ca